the parasitic motions giving rise to deformations, in its plane, of the radial strip that supports it. It is therefore appreciably less affected by the external mechanical disturbances than the prior art motion detectors described here above. However, it always has a certain residual sensitivity to external mechanical disturbances owing to the fact that it always reacts to the transversal deformations of the strip that supports it even when these disturbances do not come from rotational actuating oscillations.

FIG. **6** gives a second example of an actuating motion detector that gives preference to the detection of the same-amplitude lateral flexion deformations affecting all the radial strips rather than the transversal deformations of the radial strips. This actuating motion detector is built out of several piezoelectric torsion sensors **17, 18, 19** that are distributed on the flexible radial strips of a fastening ring in accordance with a symmetry of revolution about their axis that is the same as the actuation axis. As above, each piezoelectric torsion sensor **17, 18, 19** consists of a piezoelectric plate cross-polarized by a remanent magnetic field and coated on its sides with two electrodes E_a, E_b differentiated by the direction of the remanent magnetic field. Here the different piezoelectric plates of the torsion sensors are bonded by one and the same face to one and the same face of the different radial strips of one and the same fastening ring of a laser gyrometer with their same-type electrodes E_a or E_b attached together to one and the same output terminal of the motion detector.

With this arrangement, the motion detector remains sensitive to the flexions of the radial strip, in the plane of the fastening ring, that correspond to the oscillatory actuating motion. Indeed, when there is a flexion of this kind, the different piezoelectric plates are subjected to mechanical stresses of the same type, tensile or compressive, and generate same-sign electrical charges that get added together at output of the motion detector owing to the parallel connection of their electrodes of the same type. However, the motion detector is insensitive to a motion causing a deformation of a radial strip transversal to its plane because then the torsion sensor fitted to this radial strip is not excited owing to the absence of torsion whereas the torsion sensors positioned on the other two radial strips placed at 120° are excited in opposite directions, one perceiving a longitudinal compressive stress and the other a longitudinal tensile stress and their contributions get cancelled out in the signal of the motion detector because of their parallel connection.

This assembly gives a motion detector that is always sensitive to the rotational oscillations around the actuation axis of the laser gyrometer but with far lower sensitivity to the parasitic motions causing transversal deformations of the radial strips. It is therefore less affected by external mechanical disturbances than the prior art motion detectors described here above. However, it always shows a certain residual sensitivity to external mechanical disturbances because it always reacts to the deformations of the radial strips in their plane whereas these cannot come from actuation rotation oscillations.

A combination of the two actuating motion detectors proposed with reference to FIGS. **5** and **6** overcomes the defects of both these approaches, and makes it possible to obtain an actuating motion detector that is particularly insensitive to external mechanical disturbances. This arrangement consists simply in distributing several actuating motion detectors according to FIG. **5** on different radial strips of a fastening ring in maintaining a symmetry of revolution with respect to the actuation axis and obtaining the parallel connection of the output terminals of these different detectors.

What is claimed is:

1. An actuating motion detection device for a mechanically actuated gyrolaser including at least one fastening ring coaxial with an actuation axis of the gyrolaser, the fastening ring including a hub held at a center of a rim by radial flexible strips distributed about the hub, the radial flexible strips configured to act as springs and to vibrate under an actuating motion, said detection device comprising:

torsion detectors including,

a pair of piezoelectric plates disposed at a radial position along one of the radial flexible strips and having respective remanent magnetic fields for each piezoelectric plate aligned in opposite directions, each piezoelectric plate having two electrodes positioned on opposite sides of the piezoelectric plate with one of said two electrodes contacting said one of the radial flexible strips, and

said two electrodes connected to a common output so that, in response to deformations of the radial flexible strips due to rotational motions along the actuation axis, the torsion detectors generate electrical signals of a same polarity that collect at the common output and, in response to deformations of the flexible strips coming from motions not along the actuation axis, the torsion detectors generate electrical signals of opposite polarities that cancel one another at the common output.

2. Device according to claim **1**, wherein for at least one pair of torsion detectors the two electrodes of said piezoelectric plates are connected in an antiparallel connection to the common output.

3. Device according to claim **1**, wherein multiple piezoelectric plates are distributed on a same side of different radial flexible strips in accordance with a symmetry of revolution with respect to the actuation axis and the multiple piezoelectric plates have electrodes parallel-connected to the common output.

4. Device according to claim **1**, wherein the torsion detectors comprise:

a first pair of said piezoelectric plates having electrodes of said first pair antiparallel-connected to intermediate output terminals; and

a set of multiple piezoelectric plates distributed on a same side of the radial flexible strips in accordance with a symmetry of revolution with respect to the actuation axis and having electrodes of each of said multiple piezoelectric plates parallel connected to the intermediate output terminals.

5. An actuating motion detection device for a mechanically actuated gyrolaser including at least one fastening ring coaxial with an actuation axis of the gyrolaser, the fastening ring including a hub held at a center of a rim by radial flexible strips distributed about the hub, the radial flexible strips configured to act as springs and to vibrate under an actuating motion, said detection device comprising:

torsion detectors including multiple piezoelectric plates distributed on a same side of different radial flexible strips in accordance with a symmetry of revolution with respect to the actuation axis, the multiple piezoelectric plates having electrodes parallel-connected to the common output.

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